

IN THE CLAIMS:

This Listing of Claims will replace all prior versions and listings of claims in this application. Please amend the claims as follows:

Listing of Claims

1. (Previously Presented) A method of accessing a wireless multiple-access communication system, comprising:

receiving at least one broadcast message including information regarding configuration of at least two contention-based random access channels for a frame;

determining a current operating state of a terminal;

selecting one contention-based random access channel from among at least two contention-based random access channels based on the current operating state; and

transmitting a message on the selected random access channel to access the system during the frame,

wherein the at least two contention-based random access channels comprise a first random access channel used by registered terminals for system access and a second random access channel used by registered and unregistered terminals for system access.

2. (Canceled)

3. (Previously Presented) The method of claim 1, wherein transmissions on the first random access channel are compensated for propagation delay.

4. (Original) The method of claim 1, wherein the current operating state is indicative of whether or not the terminal has registered with the system.

5. (Original) The method of claim 1, wherein the current operating state is indicative of whether or not the terminal can compensate for propagation delay to an access point receiving the message.

6. (Original) The method of claim 1, wherein the current operating state is indicative of whether or not a particular received signal-to-noise ratio (SNR) is achieved for the terminal.
7. (Previously Presented) The method of claim 1, further comprising:
retransmitting the message until an acknowledgement is received for the message or a maximum number of access attempts has been exceeded.
8. (Original) The method of claim 1, further comprising:
if access is not gained via the selected random access channel, transmitting another message on another random access channel selected from among the at least two random access channels.
9. (Previously Presented) The method of claim 1, wherein the transmitting comprises:
selecting a slot from among a plurality of slots available for the selected random access channel; and
transmitting the message in the selected slot.
10. (Original) The method of claim 1, wherein the message includes an identifier for the terminal.
11. (Original) The method of claim 10, wherein the identifier is unique to the terminal.
12. (Original) The method of claim 10, wherein the identifier is a common identifier used by unregistered terminals.
13. (Original) The method of claim 1, wherein the multiple-access communication system supports terminals with single antenna and terminals with multiple antennas.
14. (Original) The method of claim 1, wherein the multiple-access communication system uses orthogonal frequency division multiplexing (OFDM).
- 15-16. (Canceled)

16. (Original) The method of claim 15, wherein the first message is transmitted in a manner to account for propagation delay to an access point receiving the first message.

17-38. (Canceled)

39. (Previously Presented) A terminal in a wireless multiple-access communication system, comprising:

means for determining a current operating state of the terminal;

means for transmitting messages to the system via a MIMO transmission scheme, wherein the means for transmitting messages is configured to transmit a first message on a first contention-based random access channel to access the system when the terminal is in a first operating state and to transmit a second message on a second contention-based random access channel to access the system when the terminal is in a second operating state, and the second message has a different format than the first message.

40. (Previously Presented) An apparatus in a wireless multiple-access communication system, comprising:

means for determining a current operating state of the apparatus;

means for selecting one contention-based random access channel from among at least two random access channels based on the current operating state, wherein the at least two random access channels use different message formats; and

means for transmitting a message via a MIMO transmission scheme on the selected contention-based random access channel to access the system.

41. (Canceled)

42. (Previously Presented) The method of claim 1, wherein receiving the at least one broadcast message comprises receiving at least two broadcast messages each associated with a different one of the at least two random access channels.

43. (Previously Presented) The method of claim 1, further comprising determining a slot to transmit the message on the one contention-based random access channel based upon a

slot assigned to the at least one contention-based random access channel in the at least one broadcast message and wherein transmitting comprises transmitting the message in the slot of the frame.

44. (Previously Presented) The method of claim 1, wherein transmitting the message comprises transmitting the message on a set of subbands of a plurality of subbands of the one contention-based random access channel.

45. (Previously Presented) The method of claim 1, wherein the message transmitted on the one contention-based random access channel comprises one OFDM symbol.

46. (Previously Presented) The method of claim 1, wherein the message transmitted on the one contention-based random access channel comprises four OFDM symbols.

47. (Previously Presented) The method of claim 1, wherein the message transmitted on the one contention-based random access channel comprises two OFDM symbols.

48. (Previously Presented) The method of claim 1, wherein determining the current operating state of a terminal comprises determining if the terminal is scheduled and the method further comprising utilizing a data channel, and not selecting one contention-based random access channel, for transmission.

49. (Previously Presented) The method of claim 1, wherein the second contention-based random access channel of the at least two contention-based random access channels corresponds to a contention-based random access channel used by a terminal after acquiring system frequency, wherein determining comprises determining whether the terminal has acquired the system frequency, and wherein selecting comprises selecting the second contention-based random access channel as the one contention-based random access channel when the terminal has acquire the system frequency and is not registered.

50. (Previously Presented) The method of claim 1, wherein transmitting the message comprises transmitting a different message format on each of the at least two contention-based random access channels.

51. (Previously Presented) The method of claim 1, further comprising receiving an assignment responsive to the message from a base station.

52. (Previously Presented) The method of claim 51, wherein receiving the assignment comprises receiving an acknowledgement in a message including the assignment.

53. (Previously Presented) The method of claim 51, further comprising determining scheduling information of the assignment for a channel distinct from the at least two contention-based random access channels.

54. (Previously Presented) The method of claim 1, wherein:
determining comprises determining whether the terminal is not registered with the system;
selecting comprises selecting the second contention-based random access channel to register with system, if the terminal is unregistered; and
transmitting comprises transmitting the message as a request to register with the system.

55. (Previously Presented) The method of claim 15, further comprising receiving information corresponding to parameters conveying configuration information for the first contention-based random access channel.

56. (Previously Presented) The method of claim 55, wherein the information is received via a first broadcast message.

57. (Previously Presented) The method of claim 56, further comprising receiving information corresponding to parameters conveying configuration information for the second contention-based random access channel in a second broadcast message different than the first broadcast message.

58. (Previously Presented) The method of claim 55, further comprising determining a slot to transmit the message on the first contention-based random access channel based upon the parameters and wherein transmitting comprises transmitting the first message in the slot.

59. (Previously Presented) The method of claim 15, wherein the second message comprises one OFDM symbol.
60. (Previously Presented) The method of claim 15, wherein the first message comprises four OFDM symbols.
61. (Previously Presented) The method of claim 15, wherein the first message comprises two OFDM symbols.
62. (Previously Presented) The method of claim 15, further comprising receiving an assignment responsive to the message from a base station.
63. (Previously Presented) The method of claim 62, wherein receiving the assignment comprises receiving an acknowledgement in a message including the assignment.
64. (Previously Presented) The method of claim 62, further comprising determining scheduling information of the assignment for a channel distinct from the at least two contention-based random access channels.
65. (Previously Presented) The terminal of claim 39, wherein the means for determining the current operating state is operative to determine the current operating state based upon whether or not the terminal has registered with the system.
66. (Previously Presented) The terminal of claim 39, wherein the means for determining the current operating state is operative to determine the current operating state based upon whether or not the terminal can compensate for propagation delay to an access point receiving messages sent by the terminal.
67. (Previously Presented) The terminal of claim 39, wherein the means for determining the current operating state is operative to determine the current operating state based upon whether or not the terminal achieves a required received signal-to-noise ratio (SNR).

68. (Previously Presented) The terminal of claim 39, wherein the means for transmitting messages is operative to process the messages to include an identifier for the terminal.

69. (Previously Presented) The terminal of claim 68, wherein the identifier is unique to the terminal.

70. (Previously Presented) The terminal of claim 68, wherein the identifier is a common identifier used by unregistered terminals.

71. (Previously Presented) The terminal of claim 39, further comprising means for processing received information corresponding to parameters conveying configuration information for at least the first and second contention-based random access channels.

72. (Previously Presented) The terminal of claim 71, wherein the information is received via a broadcast message.

73. (Previously Presented) The terminal of claim 71, wherein information for each of at least the first and second contention-based random access channels is received in different broadcast messages.

74. (Previously Presented) The terminal of claim 39, wherein the means for transmitting messages is operative to process the messages for transmission on a set of subbands of a plurality of subbands of the first or second contention-based random access channel.

75. (Previously Presented) The terminal of claim 39, wherein the means for transmitting messages is operative to process the messages to comprise one OFDM symbol.

76. (Previously Presented) The terminal of claim 39, wherein the means for transmitting messages is operative to process the messages to comprise four OFDM symbol.

77. (Previously Presented) The terminal of claim 39, wherein the means for transmitting messages is operative to process the messages to comprise two OFDM symbol.

78. (Canceled)

79. (Previously Presented) The terminal of claim 39, further comprising means for processing an acknowledgement in a message including the assignment.

80. (Previously Presented) The terminal of claim 79, wherein the assignment comprises information for utilizing at least the first and second contention-based random access channels and a forward link data channel.

81. (Previously Presented) The terminal of claim 79, wherein the assignment comprises information for utilizing at least the first and second contention-based random access channels and a reverse link data channel.

82. (Previously Presented) The apparatus of claim 40, wherein the means for determining the current operating state comprises means for determining the operating state based upon whether or not the apparatus has registered with the system.

83. (Previously Presented) The apparatus of claim 40, wherein the means for determining the current operating state comprises means for determining the operating state based upon whether or not the apparatus can compensate for propagation delay to an access point receiving the message.

84. (Previously Presented) The apparatus of claim 40, wherein the means for determining the current operating state comprises means for determining the operating state based upon whether or not the apparatus achieves a required received signal-to-noise ratio (SNR).

85. (Previously Presented) The apparatus of claim 40, wherein the means for transmitting is configured to retransmit the message until an acknowledgement is received for the message or a maximum number of access attempts has been exceeded.

86. (Previously Presented) The apparatus of claim 40, wherein the means for selecting comprises means for, if access is not gained via the selected random access channel, selecting another random access channel selected from among the at least two random access channels.

87. (Previously Presented) The apparatus of claim 40, wherein the means for transmitting comprises means for transmitting the message to include an identifier for the apparatus.

88. (Previously Presented) The apparatus of claim 85, wherein the identifier is unique to the apparatus.

89. (Previously Presented) The apparatus of claim 87, wherein the identifier is a common identifier used by unregistered apparatus.

90. (Previously Presented) The apparatus of claim 40, further comprising means for processing received information corresponding to parameters conveying configuration information for the at least two contention-based random access channels.

91. (Previously Presented) The apparatus of claim 90, wherein the information is received via a broadcast message.

92. (Previously Presented) The apparatus of claim 91, wherein information for each of the at least two contention-based random access channels is received in different broadcast messages.

93. (Previously Presented) The apparatus of claim 40, wherein means for transmitting comprises means for transmitting for the message on a set of subbands of a plurality of subbands of the one contention-based random access channel.

94. (Previously Presented) The apparatus of claim 40, wherein means for transmitting comprises means for transmitting for the message on one OFDM symbol.

95. (Previously Presented) The apparatus of claim 40, wherein means for transmitting comprises means for transmitting for the message on four OFDM symbols.

96. (Previously Presented) The apparatus of claim 40, wherein means for transmitting comprises means for transmitting for the message on two OFDM symbols.

97. (Previously Presented) The apparatus of claim 40, further comprising means for receiving an assignment responsive to the message from a base station.

98. (Previously Presented) The apparatus of claim 97, wherein the means for receiving the assignment comprises means for receiving an acknowledgement in a message including the assignment.

99. (Previously Presented) The apparatus of claim 97, further comprising means for determining scheduling information of the assignment for a data channel distinct from the at least two contention-based random access channels.